PATENT SPECIFICATION

834,069

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COMPLETE SPECIFICATION

DRAWINGS ATTACHED

Improvements in and relating to Hitches for Attaching Dumpers, Trailers or Other Implements to Tractors or the Like

We, MORE WEAR INDUSTRIES (RHODESIA) (PRIVATE) LIMITED, a British Company, of Hood Road, Southerton, Salisbury, Southern Rhodesia, and WILLIAM MICHIE IRVINE, a British subject, of Hood Road, Southerton, Salisbury, Southern Rhodesia, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The known types of hitches for attaching dumpers, trailers, or other implements to tractors or other vehicles, especially for tractors provided with power lift, consist generally of a considerable number of parts, as draft links, pivots, crossbars, brackets, etc., and of special means for adjusting the height of the hitch in relation to the tractor. Apart from the elaborate and therefore expensive constructions of known arrangements, in many cases the hitch prevents the turning of the tractor at a certain angle in relation to the implement because the movement of the rear wheels of the tractor is limited by the hitch.

According to the present invention the combination of a hitch comprising a "ball and socket" joint and a "goose-neck" member of known type, a dumper, trailer or other implement, especially a single-axled dumper and a wheeled tractor is characterised in that the shaft of the ball-part of the ball-socket joint is fixed to the tractor at a point higher than the rear axle of the same while the cup-part of the ball-socket joint is connected by means of an arm to the one end of the "goose-neck" which is rigidly fixed to the drawn vehicle. A detachable safety plate is, in accordance with a further feature of the invention, fixed to the tractor over the cup-part of the ball-socket joint. In practice, the ball-socket joint can be fixed at any convenient point to the top of the rear section of the tractor. It is of advantage to fix the same slightly in front of the rear axle to put the maximum weight onto the tractor in order to prevent the front wheels from rising off the ground. It has been found that by means of this simple and inexpensive arrangement the dumper or other implement automatically and smoothly adapts itself to any unevenness of the ground. Besides, the connection is effected with a minimum of friction. The implement can be instantly attached to the tractor, or it can be easily disconnected if required. In order to secure the position of the cup, the arrangement of a single plate over the same is sufficient.

No parts of the hitch obstruct the rear wheels of the tractor during the turning of the latter. Other features of the invention are described below.

An example of the hitch according to the invention is shown diagrammatically in the drawing.

Fig. 1 is a side view, and

Fig. 2 a front elevation A-A of the hitch, and

Fig. 3 shows the part having a spherical top section in side elevation.

As mentioned above, the hitch consists essentially of a part having a spherical top section 1 and a cylindrical shaft 2 and a connecting member 3 to which by means of an arm 3a a cup 4 is secured which fits over the ball-like part 1.

In this example, the connecting member 3 is of the "goose-neck" type and it is fixed to the dumper 6 at 5. The shaft 2 is vertical to the rear of the tractor and it is secured at a point higher than the rear axle of the same. Plates 8 and 9 are welded to the shaft 2 and the plates are secured in position on the surface 15 of the tractor by parts 10 and 11. A plate 12 held by bolts on a base 13 prevents cup 4 from being removed from

the ball 1, but it allows the cup to turn in any direction over the ball. Of course, when attaching the dumper to the tractor, the plate 12 is removed, the cup laid over the ball and thereafter the plate 12 is fixed into the position shown in Fig. 1. The "goose-neck" type connecting member together with arm 3a allows freer movement of the tractor rear wheels (indicated at 14) than in other constructions, because no parts of the hitch are arranged below the surface 15 of the tractor. The connecting member 3 can have a square, round or any other cross-section and it is rigidly fixed to the dumper; it can also be exchangeable if required.

WHAT WE CLAIM IS:—

1. The combination of a hitch comprising a "ball and socket" joint and a "goose-neck" member of known type, a dumper, trailer or other implement, especially a single-axled dumper and a wheeled tractor characterised in that the shaft of the ball-part of the "ball-socket" joint is fixed to the top of the rear section of the tractor at a point higher than the rear-axle of the same while a cup-part of the "ball-socket" joint is connected by means of an arm to one end of the "goose-neck" which is rigidly fixed to the drawn vehicle.

2. A combination according to Claim 1, having a detachable safety plate fixed to the tractor over the cup-part of the "ball and socket" joint.

3. The combination of a hitch, tractor and trailer substantially as described with reference to the accompanying drawing.

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1 SHEET This drawing is a reproduction of the Original on a reduced scale.

FIG. 1.

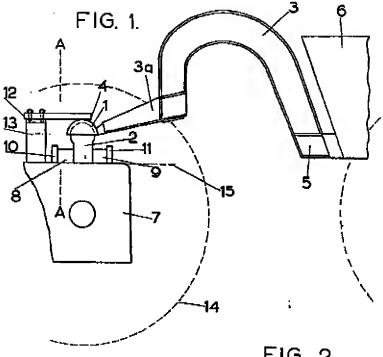

FIG. 2.

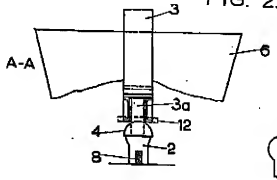

FIG. 3